centuries. Recently, scientific and epidemiologic research has focused on its content in flavonoids and its potential to promote health and/or reduce risk factors for various diseases. Chocolate is also an energy-rich food item. As such, it may promote positive energy balance, body weight gain, and ultimately become a risk for public health. Chemical compounds found in cocoa are fragile. During the multiple processes of chocolate production, these compounds may be degraded. In addition, adjunctions to cocoa to generate specific chocolate brands may have positive or negative biological of the final product. The art of the chocolate maker is to protect the cocoa values during the chocolate production and to select additives having interesting organoleptic values and positive health properties.

Conclusion: Many associations between chocolate consumption, health, and diseases are proven. The complexity of the cocoa compounds warrants further investigations to substantiate the benefits/disadvantages of chocolate, and to identify if chocolate should remain a food for pleasure and/or dietary supplement.

Learning objectives: Identify the chocolate's properties. Learn the main hypotheses addressing the chocolate's health-promoting values. Discover the relationship between chocolate, health, and diseases. Understand the differences between industrial and artisanal processes, and their impact on the final product.

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MEDICATION USE: FROM LEAFLET TO ELEARNING

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Summary: Medication adherence is poor, especially for chronic diseases, leading to reduced treatment effectiveness and increased health care costs. As defined by WHO, "adherence is a multidimensional phenomenon determined by the interplay of five dimensions of which patient-related factors are just one determinant." One of the different ways to improve adherence is to enhance patients' knowledge about medication that implies taking into account patients' experiences, expectations, and beliefs about medication efficacy and adverse effect in the context of their illness. Patient information leaflets (PIL), legally required by many countries, provide comprehensive information, but they are not necessarily related to patients' level of literacy nor do they answer individual situations. The Internet is more and more used as a source for health information. Patients report that this media allows them to get second opinions, cross-checking, and more tailored information through experience sharing. However, they could also be deceived, confused, or frightened by what they are finding on some Web sites or forums. ELearning programs based on constructivist learning theories are aiming, through self-involvement and interactivity, at improving patients' knowledge and skills to use medicine in a safer way.

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THE MAKINGS OF THE WORLD-CLASS ATHLETE: PHYSIOLOGIC, GENETIC, PSYCHOSOCIAL AND ECONOMIC DETERMINANTS

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Summary: A look at the final medal tally at the XXX Olympiad in London reveals that certain nations enjoy particular success on the running track and the marathon. Compelling examples are that of east African athletes from Kenya and Ethiopia, with their domination of middle- and long-distance running, and that of athletes from Jamaica and the United States, with their domination of sprint events. The London results have undoubtedly enhanced the concept that certain ethnic groups possess some inherent genetic advantage predisposing them to superior athletic performance. However, there is no genetic evidence to suggest that this is the case, although research is ongoing and predominantly implicates environmental factors. Genetic studies of elite distance runners from Kenya and Ethiopia and elite sprinters from Jamaica, the United States, and Nigeria do not find that these athletes possess a unique genetic makeup; rather they serve to highlight the high degree of genetic diversity among ethnic groups. It is unjustified, therefore, to regard ethnic differences in sporting success as genetically mediated; to justify doing so one must identify the genes that are important, which until now has proven elusive.

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DEVELOPMENT OF PARTNERSHIPS BETWEEN THE BIOPHARMACEUTICAL INDUSTRY AND THE WORLD ANTI-DOPING AGENCY

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Summary: Recent cases of doping in elite sports have shown that drugs in development have been misappropriated during clinical trials and supplied to athletes or members of their entourage with a view to being used for performance-enhancing purposes. Certain innovative drugs, in particular those with chemical structures similar to endogenous substances, are especially difficult to detect. It requires substantial time and investment by antidoping authorities to develop detection methods that can then be integrated into the routine antidoping analysis of WADA-accredited laboratories. In a bid to facilitate detection methods for drugs in development that have doping potential, WADA has created partnerships and engaged in collaboration with pharmaceutical and biotechnology companies, as well as with the related biopharmaceutical associations. The rationale is to bring about an exchange of information before these drugs have completed their clinical development and become commercially available. This exchange of information has already proven to be of great value to the antidoping authorities, while it has also allowed the pharmaceutical and biotechnology companies to benefit from WADA's experience in the risk-management of their substances in development and the possibility of counterfeiting by illegal laboratories and unscrupulous companies. This approach continues to expand as more companies embrace the collaborative model. The ultimate aim always will be to deter and prevent athletes from abusing these drugs, because such abuse poses a very real risk to their health and continues to be a major threat to clean athletes and clean sport.

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THE ROLE OF THE CLINICAL PHARMACOLOGIST IN PHARMACOECONOMICS/HEALTH ECONOMICS

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Summary: Clinical pharmacologists should be playing a much larger role in the economic evaluation of medicines than hitherto. They have particular expertise in: choice of comparator interventions; appraisal of study designs of clinical effectiveness; appropriateness of post hoc subgroups; generalizability (external validity) of the pivotal studies; and inputs into, and face validity of, economic models.

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